DOCUMENT RESUME

ED 176 280 CS 205 107

AUTHOR Klawin, Thomas N.
TITLE Research on the Language of the English Classroom: A Disconnected Dream.
PUB DATE Mar 79
NOTE 18p.; Paper presented at the combined Annual Meeting of the Conference on English Education and the Secondary School English Conference (Pittsburgh, Pennsylvania, March 15-18, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Beginning Teachers; *Classroom Communication; Educational Research; *English Instruction; Interaction Process Analysis; Language Research; *Language Usage; *Research Methodology; Research Needs; *Teacher Behavior; *Teacher Education

ABSTRACT

Methods used in studies of the classroom language of the English teacher are described in this paper and some results of the research are reported. The paper first describes three methods traditionally employed in the description of the language of the English classroom--live observation systems, coding systems based on transcripts, and ethnographic studies--and indicates which of these methods was used in each of 22 studies. It next characterizes the studies (and two additional studies) according to five types of research designs outlined by M.J. Dunkin and B.J. Biddle: process occurrence, presage-process, context-process, process-process, and process-product. The paper then reports some of the results of the studies, concluding that the findings suggest that English teachers make their classrooms into very dull places, and notes that the findings do not yield much information about the effects of teacher training on the beginning English teacher. It concludes by stating some assumptions about what research should be and by stating that future research studies into the training of English teachers should be holistic and longitudinal, should investigate the process of how teachers learn to think like teachers, should reflect the divisions of the field of English teaching, and should focus on the language of the classroom. (GT)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED176280

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

# RESEARCH ON THE LANGUAGE OF THE ENGLISH CLASSROOM:

# A DISCONNECTED DREAM

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Thomas N. Kluwin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

Thomas N. Kluwin, Ph.D.
Division of Research and Evaluation
Model Secondary School for the Deaf
Gallaudet College
Washington, D.C.

Paper Presented at the Annual Meeting of the
Conference on English Education
Pittsburgh, March, 1979

CS205107

## INTRODUCTION

Charges to commissions and committees can be quite similar to the charge of the Light Brigade with the glaring exception that they are seldom immortalized in verse. So with critics to the right of me and consultants to the left and not very bravely, I enter the valley of research on the classroom language of beginning English teachers. But before getting down to a narrower discussion of research findings, I would like to briefly discuss the rationale for considering the language of the classroom as a suitable subject for research and particularly for research on teacher training.

The language of the classroom is simultatenously unique and common for, while using the forms of common verbal intercourse in English, it often alters their functons. School language is often the language of the imperceptible, the hypothetical, the conditional, and, as Hiller (1971) has pointed out, it is often the language of the vague. What complicates the situation for the teacher of English are two contradictory urges. The first is the normative linguistic behavior that occurs in English classes. At one time Miss Fiditch would have corrected the speech of her young charges. Now Ms. Fiditch has restricted herself merely to the correction of their written productions, although, as she gets more basic, she may return to the "good old days" of the "Good Speech" movement. The second force is the desire for intellectual intercourse, for the generation of great ideas and worthy reflections about the monuments of Saxon culture. Caught between these two extremes are the student and the student teacher. The student teacher wants to be a success when she gets out of student teaching, and the student just wants to get out. In this morass of contradictory emotion, the poor and harassed English language, which has been declared an "abstraction" and not a real thing, is forced to bear the brunt of the activity.

It is the use and abuse of the language used by the teacher in the instruction of the student in the student's native tongue that is the concern of this paper. I would like to first outline the methods used in the studies of the language of the English teacher, then move on to a discussion of the results of the research, and finally suggest some directions for the future based on what is already known about the training of prospective English teachers.

## METHODS

Three methods have been traditionally employed in the description of the language of the English classroom: live observation systems, coding systems that require transcripts, and ethnographic studies.

## NUMBER ONE: LIVE OBSERVATION SYSTEMS

Growing out of the socially inspired research of the nineteen-thirties on the relationship between teacher authoritarianism and student learning, several classroom interaction category systems were developed from Flander's Interaction Analysis Categories system (FIAC) which was a further refinement of Withal's classroom climate categories. Although the various schemes have a history of conceptual vagueness, they are able to achieve reasonable reliability and some generalizability, and, in spite of bitter attacks on the whole research model such as Anderson's review (1959), the movement has not only continued but has flourished.

While reliability does not seem to be a major problem for these types of category systems, validity, or at least conceptual clarity, is. For example, Amidon and Hunter define "accepts feelings" as 'the teacher responds to the student's feelings in an accepting manner" (1967, p. 114). An additional problem is that categories generally lack externally verifiable criteria. A syntactic

question like "Are you tired?" could be construed in the classroom as a question or a command, but the interaction analysis systems typically rely on the coder's judgment for an interpretation of such question. For example, where FIAC would accept the teacher's repetition of student language as an example of praise, Sinclair and Coulthard (1975) have shown that this is a teacher's device for eliciting further responses which is clearly a different behavior for communicating that a response is correct.

The great advantage of the live observation systems is their relative cost and ease of use. There is essentially a trade-off between rapid data collection and the irretrievability of the phenomenon.

NUMBER TWO: CODING SYSTEMS

Several systems have been proposed for describing the units of classroom discourse, and like grammatical categories, the question of category definition is dependent on the level of delicacy that the taxonomy will operate on. Bellack et al. (1966), Tisher (1970), and Sinclair and Coulthard (175) represent the main threads of the movement. Bellack based his sytem on the "conversational game" approach of the philosopher Wittgenstein; Tisher developed his out of the logical analysis system of Smith and Meux (1962); while Sinclair and Coulthard followed the British school of linguistics known as "Neo-Firthians." In spite of the different theoretical bases for all these systems, they do have several characteristics in common. First, they define categories by the participants in the interchange. Second, the system's are based on the intent of the speaker, although they may categorize the speaker's intent in a different way. Finally, all systems recognize the highly formalized turn-taking procedure found in the classroom. The following table attempts to summarize the systems and their relationships to each other.

TABLE 1

COMPARISON OF THREE DISCOURSE

ANALYSIS SYSTEMS

| | SYSTEM | | |
|---|---|---|---|
| Length of Utterance | Bellack et al. (1966) | Tisher (1975) | Sinclair and Coulthard (1975) |
| Fraction of speaker' turn | | | Act |
| Speaker's turn | Move | Statement | Move |
| Turn-taking Sequence | Cycle* | Incident | Exchange |
| Topically-oriented Sequence: | Cycle* | Episode | Transaction |

*Bellack does not distinguish formally between the turn-taking sequence and longer topically-oriented sequences.

There is general agreement among all the systems that turn-taking is the primary unit within classroom discourse with a clearly definable sub-unit in terms of speaker within-turn structures.

NUMBER THREE: ETHNOGRAPHIC STUDIES

The most elaborate form of linguistic interaction analysis of the classroom was that pursued at Harvard and the University of California-San Diego following the collaboration of Hugh Mehan and Courtney Cazden and her graduate students.

Mehan (1976) defines "micro-ethnography" as the study of social interaction in naturally occuring situations through the extensive use of vidiotape. The use of videotape is crucial to this type of a study for the methodology requires repeated viewings of a single event. Schultz (1976) describes it as an interactionally based research strategy with four pre-requisites. First, there must be an exhaustive analysis of the corpus which leads to the second pre-requisite,

the extensive use of videotape to capture as much of the event as possible. Third, like classical anthropological ethnographic studies, there must be a convergent relationship between the observer and the participant, that is, the participant is a valuable source of data about the actual event as well as a source for the interpretation of the event. The last pre-requisite is drawn from the third. The researcher must locate the phenomenon within the participant's actions.

More recently, Mehan (1978) has re-named the procedure "constituitive ethnography," and moved the discipline away from a linguistic study and more towards an anthropological method. This is an interesting development since Talbert (1973) called for such a shift in emphasis in research on teaching English five years ago.

## Viewing the Field

Table 2 presents a quick summary of the methods used in several studies of English classrooms. While more information could be gained by citing information about all studies of teaching regardless of subject matter such a course seems foolish because of its scope and inappropriate because of this particular audience. An additional motivation for restricting the scope of Table 2 is that Smith and Meux (1962) have shown that there is variation across subject areas in teaching styles that can be serious effects in research on teaching. Also, this panel is concerned with research on teacher education and by limiting the topic first to the teaching of English and subsequently the beginning English teacher, the purposes of this panel will be better served.

Table 2

Methodology of Selected Studies

| | Live Observation | Recorded/Coded | Ethnography |
|---|---|---|---|
| Amidon & Giametto, 1967 | X | | |
| Barnes et al., 1969 | | | X |
| Bushmen, 1972 | X | | |
| Creber, 1972 | | | X |
| Farrow, 1964 | X | | |
| Flanders, 1970a | X | | |
| Furst, 1967b | X | | |
| Gallagher, 1965 | | | |
| Hudgins and Ahlbrand, 1967 | | | |
| Jensen, 1973 | | | |
| Johns, 1966 | X | | |
| Kluwin, 1978a | | X | |
| Kluwin, 1978b | | X | |
| Kluwin, 1979 | | X | |
| McAllister et al., 1969 | | X | |
| Medley & Hill, 1968 | X | | |
| Moskowitz, 1967 | X | | |
| Murray & Williams, 1971 | | | |
| Penny, 1969 | X | | |
| Searle, 1975 | X | | |
| Trinchero, 1975 | | X | |
| Wilsford, 1976 | X | | |

Table 2 can be looked at as a continuum from left to right. As you move from live observation studies through coding studies and towards ethnographies, several things increase. The studies become more expensive, more information is available to the researcher in the form of raw data, and the likelihood that the phenomenon is preserved for later re-analysis increases. It is for these reasons that the bulk of the studies are live observation studies. The others are expensive, time consuming, and hard to manipulate. For the most part, researchers on the language of the English classroom have not wanted to devote the time or the expense that more elaborate studies would require. They have most often sought to establish very specific research hypotheses within the tight paradigms of the psychologists. While we have gained information about teacher training in English, we may have lost something more important.

Learning to teach is a process that people go through that, I think, is more like learning to be a parent or like becoming an adult member of a community than it is like learning to read or write or ride a bicycle. If it were like learning to ride a bike, then we would have a lot of information but, since it may not be, Table 2 may represent a loss column rather than a winning pattern.

## Research Models

Robert Caldwell (1978) in his original communication to the members of the commission used Dunkin and Biddle's (1974) model of describing research on teaching. Since he has broached the use of the model, I will continue in that vein by briefly discussing the available research in those terms. The Dunkin and Biddle model lends itself to multiple combinations of variables for the description of research on teaching but I have selected the five most common types and compiled them in Table 3.

Table 3

Summary of Research Designs

| | Process Occurence | Presage-Process | Context-Process | Process-Process | Process-Product |
|---|---|---|---|---|---|
| Amidon & Giametto, 1967 | | X | | | |
| Barnes et al., 1969 | X | | | | |
| Bushman, 1972 | | X | | | |
| Creber, 1972 | X | | | | |
| Farrow, 1964 | | X | | | |
| Flanders, 1970a | X | | | | X |
| Furst, 1967b | X | X | | | |
| Gallagher, 1965 | X | | | | |
| Hudgins & Ahlbrand, 1967 | X | | | X | |
| Jensen, 1973 | | | X | | |
| Johns, 1966 | | | | X | |
| Kluwin, 1978a | | X | | | |
| Kluwin, 1978b | | | | X | |
| Kluwin, 1979 | X | | | | |
| McAllister et al., 1969 | | | | X | |
| Medley & Hill, 1968 | | | | X | |
| Medley & Hil, 1970 | | X | | | |
| Moskowitz, 1967 | | X | | | |
| Murray & Williams, 1971 | X | X | X | X | |
| Penny, 1969 | X | | | | X |
| Searle, 1975 | | | | | |
| Smith & Meux, 1962 | X | | | X | |
| Trinchero, 1975 | X | X | | X | |
| Wilsford, 1976 | X | | | | |

Process Occurrence studies are descriptions of the phenomenon of teaching. Presage-Process studies are studies of teacher variables that effect the phenomenon. Context-Process studies are studies of pupil or subject matter variables or variables other than teacher characteristics that can effect the process of teaching. Process-Process studies are those that study the effects of parts of the phenomenon on other parts. Process-Product studies are the Cadillac studies in research on teaching. They are studies that attempt to demonstrate that some manipulation within the phenomenon has had an effect on the pupil.

What is obvious from Table 3 is that research on teaching English or research on teacher training in English has been primarily a study of the process of teaching. The great bulk of the studies are Process-Occurrence or Process-Process studies. The Presage-Process studies account for the studies of teacher training in English. While Context-Process studies are crucial particularly in the teaching of literature and composition, there have been relatively few of these and the bulk of these have been simple comparison studies between English and a completely different subject matter most often Social Studies. Unfortunately, both for research on teaching and for the teaching of English, there have been almost no studies of Process-Product variables. As a profession, we don't know if we are effective. At this point, I should add very quickly that there is an incredibly lively tradition in English Education for studies of Context-Product relations. Without even consulting the program, I can tell you that there is at least one person talking about sentence-combining sometime this afternoon and that during the course of this convention, there will be no less than three presentations on how to structure a writing program using some method pirated from another discipline. I am saved from having to discuss these studies because they are outside the normal purview of research on teaching. Rather than

dwelling on what we don't know, let me move on to what we do know first about the act of teaching English and second about the relationship between teacher training and its effect on the teaching of English.

What We Know About Teaching English

Actually, we know quite a bit about the process of teaching English. It varies from the ethnographic studies of the British (Barnes, 1969 and Creber, 1972) through the occassional coding studies (Kluwin, 1978 and Trincehro, 1975) to several interaction analysis studies. To keep from going on for days, I will again limit my discussion by focussing on the studies of the language of the English classroom.

It will be useful when discussing classroom language to adopt a well-documented pattern of classroom behavior (Gall, 1973; Bellack et al., 1966; Tisher, 1970); the pattern of the teacher initiation, the student response, and the teacher reaction. Adopting this structure as an organizing principle, the following facts come to light.

English teachers talk for somewhere between fifty and seventy percent of the class time. English teachers lecture between fifteen and twenty-five percent of the class time and give directions only about ten percent of the time. This leaves the remaining time for teacher questioning. Unfortunately, the questions are not that earth-shaking. Depending on the system used, the English teacher's questions are coded variously as stating or evaluating, or cognitive memory, or knowledge level. Regardless of the system, the greatest number of teacher questions are at the bottom of the system.

Student talk comprises between twenty and thirty-three percent of the class time but pupil responses to teacher questions account for twenty percent of class time. The best estimate of pupil initiations during classroom interactions is about ten percent. Generally, pupil responses are not profound, tend to be very brief, and are dependent on the

teacher's initiation for interpretation. While you might be able to take an English teacher's utterance out of context and understand it, you cannot do the same for a student's remark.

The teacher's follow-up to the student's response is quite uninteresting. Teacher follow-ups tend to be monosyllabic, idiosyncratic, and communicatively hollow. However, we do know that English teachers are critical of student responses less than six percent of the time, but they accept students ideas only about eight percent of the time. Teachers' use of logical categories covaries with the students responses, but the students responses are conditioned by the teachers' initiations. In essence, what the research on the language of the English classroom shows is that it is a very dull place and that the teacher who has control over the situation is making it dull.

What Do We Know About the Language of Beginning Teachers?

We don't know much about the effects of training on the beginning English teacher. We do know that the beginning English teacher spends his or her first year learning to talk like a teacher. But after that point, the question of the effects of training are contradictory. While higher scores on the NTE English A and Literature tests are associated with higher incidences of criticism in the language of beginning English teachers, experimental training programs have shown that the use of criticism can be lowered in beginning teachers. While frequency of teacher questioning can be exprimentally increased, the degree of teacher lecturing cannot be decreased. Teacher training can raise the cognitive levels of the teachers questions and the students' responses, but it is unable to increase student participation.

There is no clear series of results that we can unequivocably point to and say that teacher training is responsible for producing this kind of result and that the result is a beneficial one.

The Future

There has been some basic work done on how training can effect the language of English teachers, however, a range of questions remain. Many of the criteria of "good teaching" developed in research on "teacher effectiveness" (Gage et al, 1976) reflected very efficient methods for information transfer, but there still remain broad ares of interest left totally unexplored. For example, what are the most effective teacher language behaviors that encourage an "appreciation" of literature and not just the acquisition of information about it? Can the goals of empathy and information be synthesized into a language strategy or must they be dealt with separately?

The work of Bruce Joyce and his associates (Weil, Joyce and Kluwin, 1977) in the development of integrated systems of teacher training that apply wholistic but diverse models to the question of classroom strategies, offers some hope in this area. While some preliminary research work is available that reflects the conceptual basis of this approach, continued study is required.

Now that I have uttered the ultimate phrase that "continued study is required," the appropriate social behavior is that I stop there and try to get off the stage. However, I will instead outline some potential directions for research in this area if you will first permit me some assumptions about what research should be. If you reject my assumptions then you can reject my suggestions, but at least we will all have a common starting point.

First, I assume that wholes are better than parts. Studies of classroom behavior should be wholistic and not fractured. While "teacher praise" may be a particular interest of a researcher, such an event occurs within a network of other events. This is nothing new for our profession for Carol Talbert (1973), as I mentioned earlier, called for it five years ago.

Second, teachers are people and so are students. The actors in the classroom are human beings and not emitters of data. I somehow have an intuitive sense that a high school English teacher is qualitatively different from a pigeon, although I have known a couple in my career who were rats.

Third, the teaching of English is a field and not a discipline, that is, we teach too many different but related kinds of things to be comfortable with statements about "teaching English." What was taught? Lite ature, language, or rhetoric?

Fourth, it takes an English teacher three years just to learn the job. In my case that may be an underestimatio. Learning to teach is a process that takes time, a lot of time.

Based on those assumptions, the future of research on the training of English teachers should take the following directions. They should be wholistic studies and not pet projects. The model that Berliner and his associates (1974) provide is an expensive and difficult one to emulate but it nonetheless preserves the phenomenon in its entirety and gives more generalizability than even the ethnographic approaches of Mehan and his colleagues.

The teacher should be regarded as a thinking being and so should the student. Since we are interested in training teachers, we should be interested in the process of how teachers learn to think like teachers. Again the work of Bruce Joyce appears to offer some hope (Joyce, Morine-Dershimer, and McNair, 1978). Studies of teacher decision making in beginning teachers are needed since although we may know what the beginner is doing we don't know why they are doing it.

We must consider the possibility that no one person can be good at the entire business of teaching English unless they are a saint or a genius. Training and research models must reflect the divisions of the field as well as the capacities of those to be trained. Again the Joyce model of families and systems of teaching strategies offers a mode for training as well as for

research.

Finally, we must think in terms of long range studies of learning to teach. Pre-service studies must blend into in-service studies. We need a Walter Loban for English teachers. If someone would take a class of beginners and follow them from their first methods class through their first five years of teaching, we would probably learn more about the business of teaching and learning to teach than we would ever want to.

It is now time for me to abandon my fantasies and return to what can practically be done. The answer is that quite a bit can be done if it is done carefully. In a world of pressure and hurry, learning to teach is still a time consuming act that takes place over years. We must stop being seduced by the psychologists paradigms, for the classroom is more like a tribe or a herd or a hunting band than it is like a cage or a maze. We must adopt the methods that are appropriate to our phenomenon and think of teacher training in terms of apprenticeships and initiations and rites of passage.

All of this leads back to my topic. The most suitable object for us to study in research on teacher training is the language of the classroom because it bears so much of the freight in our profession. Language is our product, our craft, our ritual object, and our "raison d'etre" and as anthropologists study pottery and dances or ethologists study herd movements and territorial displays, we must observe language and the thought behind the language if we are to understand how a person stops being a student and becomes a teacher.

References

Amidon, E.J. and Giametto, M. 1967. "The Verbal Behavior of Superior Elementary Teachers." In E.J. Amidon and J.B. Hough (eds.) Interaction Analysis: Theory Research and Application. Reading, MA.:Addison-Wesley.

Amidon, E.J. and Hunter, E. 1967. "Verbal Interaction in the Classroom: The Verbal Interaction Category System" In E.J. Amidon and J.B. Hough (eds.), Interaction Analysis: Theory, Research, and Application. Reading, MA: Addison-Wesley.

Anderson, R.C. 1959. "Learning in Discussions: A Resume of the Authoritarian-Democratic Studies." Harvard Educational Review, 29, 201-215.

Barnes, D.; Birtton, J. and Rosen, H. 1969. Language the Learner and the School. Hammondsworth: Penguin Books.

Beoliner, D. 1974. Proposal for Phase III: Beginning Teacher Education Study. Report to the State of California, Committee for Teacher Preparation and Licensing, April, Sacramento, Ca.

Bellack, A.A.,; Kliebard, H.M.; Hyman, R.T. and Smith, F.L., Jr. 1966. The Language of the Classroom. New York: Teachers College Press.

Bushamn, J.H. 1972. "Teacher Observation Systems: Some Implications for English Education." Research in the Teaching of English, 6, 76-89.

Caldwell, R.J. 1978. Memo to Members of CEE Commission on Research in Teacher Education, August 30.

Dunkin, M.J. and Biddle, B.J. 1974. The Study of Teaching. New York:Holt, Rhinehart and Winston.

Farrow, R.A. 1964. "Change in Student Teachers' Verbal Behavior." Unpublished Doctoral Dissertation. Stanford University.

Flanders, N.A. 1970. Analyzing Teacher Behavior. Reading, MA:Addison-Wesley.

Furst, N.F. 1967. "The Effects of Training in Interaction Analysis on the Behavior of Student in Secondary Schools." In e.J. Amidon and J.B. Hough (eds.) Interaction Analysis: Theory Research and Application. Reading, MA:Addison-Wesley.

Gall, M.D. 1970. "The Use of Questions in Teaching." Review of Educational Psychology, 40, 707-720.

Gallagher, J.J. and Aschner, M.J. 1963. "A Preliminary Report on Analysis of Classroom Interaction." Merrill-Palmer Quarterly, 9, 183-194.

Gallagher, J.J. 1965. "Productive Thinking in Gifted Children." Cooperative Research Project No. 965. Institute for Research on Exceptional Children, University of Illinois at Champaign-Urbana.

Gumperz, J. and Herasmichuk, E. 1972. "The Conversational Analysis of Social Meaning: A Study of Classroom Interaction." Sociolinguistics: Current Trends and Perspectives. Monograph Series on Language and Linguistics, 25, Washington, D.C.:Georgetown University Press.

Hiller, J.H. 1971. "Verbal Response Indicators of Conceptual Vagueness." American Educational Research Journal, 8, 151-161.

Hough, J.B. 1967. "An Observation System for the Analysis of Classroom Instruction." In E.J. Amidon and J.B. Hough (eds.) Interaction Analysis: Theory, Research and Application. Reading, MA:Addison-Wesley.

Hudgins, B.B. and Ahlbrand, W.P., Jr. 1967. A Study of Classroom Interaction and Thinking. St.Louis:Central Midwestern Regional Educational Lab.

Jensen, J.M. 1973. "A Comparative Investigation of the Casual and Careful Oral Language Styles of Average and Superior Fifth Grade Boys and Girls." Research in the Teaching of English, 7, 338-350.

Johns, J.P. 1966. "The Relationship Between Teacher Behaviors and the Incidence of ThoughtProvoking Questions by Students in Secondary Schools." Unpublished Doctoral Dissertation. University of Michigan.

Joyce, B.R.; Morine-Dershimer, B.; McNuivik. 1976. Though and Action in Classroom, Palo Alto, CA.

Kluwin, T.N. 1978. "The Effects of Experience on the Discourse Structure of Beginning English Teachers." Paper Presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Kluwin, T.N. 1978. forthcoming. "Learning Not To Discuss: The Pragmatics of Classroom Interaction."

Kluwin, T.N. 1979. "Cyclic Patterns of Interaction in the Discourse of English Teachers," Paper to be Presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

McAllister, L.W.,; Stachowiak, J.G.; Baer, D.M. and Conderman, L. 1969. "The Application of Operant Conditioning Techniques in a Secondary School Classroom." Journal of Applied Behavior Analysis, 2, 277-285.

Medley, D.M. and Hill, R.A. 1968. "A Comparison of Two Techniques for Analyzing Classroom Behaviors." Paper Presented at the Annual Meeting of the American Educational Research Association, Chicago.

Medley, D.M. and Hill, R.A., 1970. "Cognitive Factors in Teaching Style." Paper Presented at the Annual Meeting of the American Educational Research association, Minneapolis.

Mehan, H. 1974. "Accomplishing Classroom Objectives." In A.F. Cicourel et al. (eds). Language Use and School Performance. New York:Academic Press.

Mehan, H. 1978. "Structuring School Structures." Harvard Education Review, 48, 1, 32-64.